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Frequency stabilization of a single-photon source based on spontaneous parametric down-conversion by an external electric field

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Abstract

© 2016, Institution of Russian Academy of Sciences. All rights reserved.In this paper, we examine a method of controlling the spectrum of spontaneous parametric down-conversion in crystals with quadratic nonlinearity by an external homogeneous electric field via the Pockels effect, and discuss the possibility of stabilizing the carrier frequency of the corresponding single-photon source based on backward-wave spontaneous parametric downconversion.

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Keywords

Single photon source, Spontaneous parametric down-conversion